

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Currently Amended) A system for establishing a remote communications pipe between a PSD and a remote computer system over a network using comprising a local client for use as a host to said PSD, ~~said system comprising:~~

~~at least one wherein said local client further comprising~~  
~~comprises~~ means for functionally connecting to a PSD Interface and said network, ~~wherein said client is~~ and means for functionally communicating over said network with said remote computer system; and further comprising:

client communications means for transmitting and receiving messages message packets over said network using a packet based communications protocol, and for transmitting and receiving APDUs through said PSD Interface;

first client data processing means for receiving incoming messages message packets from said remote computer system using said client communications means, and separating encapsulated APDUs from said incoming message packets thus generating desencapsulated APDUs and routing

said desencapsulated APDUs to said PSD through said PSD Interface; and

second client data processing means for receiving incoming APDUs from said PSD interface, encapsulating said incoming APDUs received through said PSD Interface into outgoing message packets and transmitting routing said outgoing message packets over said network using to said remote computer system through said client communications means.

2. (Currently Amended) The system according to claim 1 further comprising:

at least one PSD comprising means for functionally connecting to said PSD Interface and ~~wherein said PSD is~~ means for functionally communicating through said Interface; and further comprising;

PSD communications means for transmitting and receiving APDU messages through said PSD Interface; and

PSD processing means for interpreting said APDU messages, executing commands included in said APDU messages and transmitting responses in said APDU format through said PSD Interface using said communications means; and

memory storage means for storing at least one unique identifier.

3. (Currently Amended) The system according to claim 1 further comprising:

at least one remote computer system comprising means for functionally connecting to said network and ~~wherein said remote computer system is~~ means for functionally communicating with said local client, and further comprising:

server communications means for transmitting and receiving messages over said network using said packet based communications protocol;

first server data processing means for receiving requests from at least one applications level program, translating said requests into APDU format and transmitting said APDU formatted requests to a second server data processing means,

second server data processing means for encapsulating said APDUs formatted requests ~~receiving~~ received from said first server data processing means into outgoing message packets and transmitting said outgoing message packets over said network to said local client using said server communications means,

third server data processing means for receiving incoming messages from said local client using said server communications means and separating encapsulated APDUs from said incoming message packets thus generating desencapsulated APDUs and routing said desencapsulated APDUs to a forth fourth server data processing means; and

forth fourth server data processing means for receiving and translating said desencapsulated APDUs sent by said third server data processing means into another message format thus generating a translated message and transmitting said translated message to at least one applications level program.

4. (Original) The system according to claim 1 wherein said network is a public network.

5. (Original) The system according to claim 1 wherein said network is a private network.

6. (Original) The system according to claim 1 wherein said protocol is an open communications protocol.

7. (Original) The system according to claim 1 wherein said protocol is a secure communications protocol.

8. (Cancelled).

9. (Currently Amended) The system according to claim 2 ~~8~~  
~~further comprising;~~  
~~— at least one PSD comprising means for functionally~~  
~~connecting to said PSD Interface and functionally communicating~~  
~~through said Interface; and further comprising; , wherein said PSD~~  
comprises:

PSD communications means for transmitting and receiving  
encrypted APDU messages through said PSD Interface;

first PSD processing means for decrypting incoming  
encrypted APDU messages using stored cryptographic  
information, thus generating incoming decrypted APDU  
messages;

second PSD processing means for interpreting said  
incoming decrypted APDU messages, and executing commands  
included in said incoming decrypted APDU messages;

third PSD processing means for encrypting outgoing APDU  
response messages using stored cryptographic information  
thus generating outgoing encrypted APDU response messages,

and transmitting said outgoing encrypted APDU response  
messages responses in said APDU format through said PSD

Interface using said communications means; and

memory storage means for storing at least one unique  
identifier and at least one cryptographic key.

10. (Currently Amended) The system according to claim 3 &  
~~further comprising;~~

~~at least one remote computer system comprising means for~~  
~~functionally connecting to said network, wherein said remote~~  
~~computer system is functionally communicating with said client;~~  
~~and further comprising; , wherein said remote computer system~~  
comprises:

server communications means for transmitting and  
receiving messages over said network using said packet based  
communications protocol;

cryptography data processing means;

first server data processing means for receiving  
requests from at least one applications level program,  
translating said requests into APDU format and transmitting  
said APDU formatted requests to said a cryptography server  
data processing means;

second server data processing means for encapsulating said encrypted APDUs formatted requests received receiving from said cryptography data processing means into outgoing message packets and transmitting said outgoing message packets over said network using said server communications means;

third server data processing means for receiving incoming messages message packets using said server communications means and separating encapsulated APDUs from said incoming message packets thus generating desencapsulated APDUs and routing said desencapsulated APDUs to said a cryptography data processing means; and

forth fourth server data processing means for receiving and translating said decrypted desencapsulated APDUs sent by said cryptography processing means into another message format thus generating a translated message and transmitting said translated message to at least one applications level program;

~~cryptography data processing means for encrypting outgoing APDUs received from said first server data processing means and sending the encrypted APDUs to said second server data processing means and for decrypting incoming encrypted APDUs received from said third server~~

~~data processing means and sending the decrypted APDUs to  
said forth server data processing means~~

wherein said cryptography data processing means  
comprises means for encrypting said APDU formatted requests  
received from said first server data processing means and  
sending said encrypted APDU formatted requests to said  
second server data processing means and for decrypting said  
desencapsulated APDUs received from said third server data  
processing means and sending said decrypted desencapsulated  
APDUs to said fourth server data processing means.

Claims 11-14 (Canceled).

15. (Currently Amended) The system according to claim 1 or  
8 wherein said network is a hardwired network.

16. (Currently Amended) The system according to claim 1 or  
8 wherein said network is a digital cellular network.

17. (Currently Amended) The system according to claim 1 or  
8 wherein said network is a wireless network.



18. (Currently Amended) The system according to claim 1 or 8 wherein said network is an optical network.

19. (Currently Amended) The system according to claim 1 or 8 wherein said network is a telephone acoustical network.

20. (Currently Amended) A method of establishing a communications pipe between a PSD and a remote computer system over a network using a client as a host to said PSD, wherein said client and said remote computer system are in functional communications using a packet based communications protocol over said network, said method comprising:

generating a request to access said PSD on said remote computer system, wherein said request is in a non-native protocol for communicating with said PSD and said request is generated by an API Level Program,

converting on said remote computer system said request from said non-native protocol to into an APDU ~~formatted protocol~~ format request message using a first server data processing means,

encapsulating on said remote computer system said APDU ~~formatted protocol~~ format request message into said packet based

communications messages protocol producing an encapsulated APDU request message, using a second server data processing means,

transmitting said encapsulated request message over said network using said packet based communications protocol,

receiving by said client said encapsulated request message sent over said network ~~by said client~~, processing said encapsulated request message using a first data processing means to separate said APDU format request message from said encapsulated APDU request message,

routing on said client said APDU format request message through a hardware device port assigned to a PSD Interface, wherein said PSD Interface is in processing communication with said PSD,

receiving by said PSD said APDU format request message through said PSD Interface ~~by said PSD~~ and processing said APDU format request message using a first internal PSD data processing means,

generating a response message in APDU format by said PSD using a second internal PSD data processing means and transmitting said APDU format response message through said PSD Interface,

receiving by said client said APDU format response message through said PSD Interface ~~by said client~~ and encapsulating said

APDU format response message into said packet based communications message protocol producing an encapsulated APDU response message, using a second data processing means,

transmitting said encapsulated response message over said network using said packet based communications protocol,

receiving said encapsulated response message sent over said network by said remote computer system, processing said encapsulated response message using a third server data processing means to separate said APDU response message from said encapsulated APDU response message thus generating a desencapsulated APDU response message, and

converting by said remote computer system said desencapsulated APDU response message from said APDU formatted protocol into a response in a non-native protocol using a forth fourth server data processing means, and forwarding said response to at least one API Level Program.

21. (Original) The method according to claim 20 wherein said network is a public network.

22. (Original) The method according to claim 20 wherein said network is a private network.

23. (Original) The method according to claim 20 wherein said protocol is an open communications protocol.

24. (Original) The method according to claim 20 wherein said protocol is a secure communications protocol.

25. (Original) The method according to claim 20 wherein said communications pipe is initiated automatically upon connection of said PSD to said local client.

26. (Original) The method according to claim 20 wherein said communications pipe is initiated by a client requesting access to information contained on one or more networked clients.

27. (Original) The method according to claim 20 wherein said communications pipe is initiated by a client requesting access to information contained on one or more networked remote computer systems.

28. (Original) The method according to claim 20 wherein said communications pipe is initiated by one or more networked remote computer systems requesting access to said PSD.

29. (Currently Amended) A method of establishing a secure communications pipe between a PSD and a remote computer system over a network using a client as a host to said PSD, wherein said client and said remote computer system are in functional communications using a packet based communications protocol over said network, said method comprising:

generating a request to access said PSD on said remote computer system, wherein said request is in a non-native protocol for communicating with said PSD and said request is generated by an API Level Program,

converting on said remote computer system said request from said non-native protocol to into an APDU formatted ~~protocol~~ format request message using a first server data processing means, and sending said APDU formatted ~~protocol~~ format request message to a cryptography data processing means,

receiving and encrypting said APDU's ~~formatted protocol~~ format request message using cryptography data processing means thus generating an encrypted APDU request message and sending the said encrypted APDU's APDU request message to said a second server data processing means, wherein said cryptography data processing means uses a pre-established encryption method is pre-established,

encapsulating on said remote computer system said encrypted APDUs request message into said packet based communications messages protocol producing an encapsulated and encrypted APDU request message, using a said second server data processing means,

transmitting said encapsulated and encrypted request message over said network using said packet based communications protocol,

receiving said encapsulated and encrypted request message sent over said network by said client, processing said encapsulated and encrypted request message using a first client data processing means to separate said encrypted APDU request message from said encapsulated and encrypted APDU request message thus generating a desencapsulated encrypted APDU request message,

routing on said client said desencapsulated encrypted APDU request message through a hardware device port assigned to a PSD Interface, wherein said PSD Interface is in processing communication with said PSD,

receiving said desencapsulated encrypted APDU request message through said PSD Interface by said PSD and decrypting said desencapsulated encrypted APDU request message using an internal PSD data cryptography means thus generating a desencapsulated and decrypted APDU request message, wherein said

cryptography means is pre-established, and sending said desencapsulated and decrypted APDU request messages to a first internal PSD data processing means,

receiving said desencapsulated and decrypted APDU request message from said internal PSD data cryptography means and processing said desencapsulated and decrypted APDU request message using said first internal PSD data processing means,

generating a response message in APDU format by said PSD using a second internal PSD data processing means, encrypting the said APDU format response message using said internal PSD data cryptography means thus generating an encrypted APDU format response message and transmitting said encrypted APDU format response message through said PSD Interface,

receiving by said client said encrypted APDU format response message through said PSD Interface ~~by said client~~ and encapsulating said encrypted APDU format response message into said packet based communications message protocol producing an encapsulated and encrypted APDU response message, using a second client data processing means,

transmitting said encapsulated and encrypted response message over said network using said packet based communications protocol,

receiving by said remote computer system said encapsulated and encrypted response message sent over said network by ~~said remote computer system~~, processing said encapsulated and encrypted response message using a third server data processing means to separate said encrypted APDU response message from said encapsulated and encrypted APDU response message thus generating a desencapsulated encrypted APDU response message,

decrypting said desencapsulated encrypted APDU response message received receiving from said third server data processing means using said cryptography data processing means thus generating a desencapsulated and decrypted APDU response message and sending the said desencapsulated and decrypted APDU APDU response message to said forth fourth server data processing means, and

converting by said remote computer system said desencapsulated and decrypted APDU response message from ~~said APDU-formatted protocol~~ into a response in a non-native protocol using a forth fourth server data processing means, and forwarding said response to at least one API Level Program.

30. (Original) The method according to claim 29 wherein said network is a public network.



31. (Original) The method according to claim 29 wherein said network is a private network.

32. (Original) The method according to claim 29 wherein said protocol is an open communications protocol.

33. (Original) The method according to claim 29 wherein said protocol is a secure communications protocol.

34. (Original) The method according to claim 29 wherein said secure communications pipe is initiated by a client requesting access to information contained on one or more networked clients.

35. (Original) The method according to claim 29 wherein said secure communications pipe is initiated by a client requesting access to information contained on one or more networked remote computer systems.

36. (Original) The method according to claim 29 wherein said secure communications pipe is initiated by one or more networked remote computer systems requesting access to said PSD.

37. (Original) The method according to claim 20 or 29 wherein said network is a hardwired network.

38. (Original) The method according to claim 20 or 29 wherein said network is a digital cellular network.

39. (Original) The method according to claim 20 or 29 wherein said network is a wireless network.

40. (Original) The method according to claim 20 or 29 wherein said network is an optical network.

41. (Original) The method according to claim 20 or 29 wherein said network is a telephone acoustical network.

42. (New) A method of establishing a remote communications pipe between a PSD and a remote computer system over a network using a local client as a host to said PSD, wherein said local client is in functional connection with a PSD interface, and wherein said local client and said remote computer system are in functional communications using a packet based communications protocol over said network, said method comprising:

the local client transmitting and receiving message packets respectively to and from said remote computer system over said network using a packet based communications protocol, and transmitting and receiving APDUs through said PSD interface;

the local client receiving incoming message packets from said remote computer system, separating encapsulated APDUs from said incoming message packets thus generating desencapsulated APDUs and routing said desencapsulated APDUs to said PSD through said PSD Interface; and

the local client receiving incoming APDUs from said PSD interface, encapsulating said incoming APDUs into outgoing message packets and routing said outgoing message packets to said remote computer system.